

FREUND (H.H.)

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## PRIMARY LARYNGEAL DIPHTHERIA SUCCESS- FULLY TREATED WITH DIVIDED DOSES OF BEHRING'S ANTITOXIN NO. 1.<sup>1</sup>

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THE patient was a male child one year old, weighing 15 pounds, seen on the evening of December 14, 1894, at 6 P.M., with a history of having been croupy, restless, feverish, and breathing rapidly for the previous twenty-four hours. Examination of the fauces revealed an intense redness of the pharynx; and surrounding the rima glottidis the characteristic appearance of the diphtheric membrane was evident at this examination. No fetor could be detected in the breath, nor was any lymphatic glandular enlargement present. At the first examination the pulse was 136, the temperature 99°, and the respiration 26. Six hours later, 4 c.c. (m 64) of Behring's antitoxin were injected in the scapular region, slight massage soon dispelling the swelling. Eight hours after the first injection of antitoxin the pulse was 160, the temperature 101.4°, and the respirations 40. The little patient was restless during the night, and on the following day no marked improvement could be detected in its condition. The diphtheric membrane had extended upward into the posterior wall of the pharynx as much as a half-inch. Twenty-four hours after the first injection, a second one was given to the amount of 3 c.c. (m 48) near the site

<sup>1</sup> Read before The James Aitken Meigs Medical Association.



of the first injection. During the second night the child was easier, the whole condition took a more favorable turn. On the morning of the second day the pulse was 126, the temperature  $100.2^{\circ}$ , and the respirations 28. At the end of the second day, the third and last injection, consisting of 3 c.c. (m. 48), was made near the site of the other two injections. On the morning of the third day the nurse reported that the child had had a good night, taking nourishment well and sleeping quietly. Examination revealed a total disappearance of all visual diphtheric deposit.

The fever-chart in this case does not show a decided drop in the temperature after the injections, which corresponds with the observations of others who have used this form of treatment.

During the period dating from the use of the first injection to that of the last, forty-eight hours had elapsed, and in this time other systemic and local treatment had been used, consisting of divided doses of calomel, salol, and a mixture of seneg, ipecac, tincture of nux vomica, ammonium carbonate, with the use of a fine stream of hydrogen dioxid directed against the larynx. This plan of using the hydrogen dioxid proved more efficacious than when used with an atomizer. Mercurial inunctions were also used about the neck. The child was still at the breast. Large doses of whiskey were administered at frequent intervals. No lung-complications or kidney-complications were present. Although this case may be said to have had the benefit of a mixed treatment, yet, when we take into consideration the rapidly fatal termination of this form of diphtheria, and remember that in sixty hours from the time of the first injection the child was completely out of all danger, it speaks volumes for the antitoxin-treatment. Physicians who have seen much diphtheria know of the fatality accompanying the laryngeal form, and will appreciate the fact that the patient did well with this treatment.

In consultation with Dr. Edwin Rosenthal we decided to use Behring's Fluid, No. 1, in divided doses, which was contrary to the rules of Dr. Behring's practice; yet the good and prompt results obtained by this method justified us in our procedure. On the evening of our first visit the laryngeal stenosis was so marked and threatening to the child's life that it was a question whether we should use antitoxin or intubate; but having such a powerful remedy at hand, and knowing that the Behring fluid was particularly indicated in the laryngeal form of diphtheria, we felt greatly assured of ultimate success. Sixty hours after the first injection all laryngeal complications were removed. I am indebted to Dr. Edwin Rosenthal for his wise counsel and his kindness in furnishing the antitoxin.

Dr. A. Klein performed the necessary bacteriologic examinations, and reports that the specimens taken from the child showed immense numbers of the diphtheric bacilli, with nests of streptococci and staphylococci. To him, also, I express my thanks for his painstaking labors.

Since writing the foregoing report I have had two more cases of laryngeal diphtheria which have recovered. The first was that of a female child, four years old. The characteristic picture of stenosis of the larynx was very marked thirty-six hours after the use of Behring's Antitoxin No. 2. A marked improvement in the case took place, although later on pneumonia developed, from which, however, the child made complete recovery.

The second case was that of a male child, eighteen months old. Behring's Antitoxin No. 2 was injected. Twenty-four hours later the membranes began to disintegrate and became loosened to such an extent that asphyxia was imminent. Intubation was practised, with immediate relief. Twenty-one hours later the tube was coughed away, and from then on the child has made an uninterrupted recovery. In the last two cases no other treatment was used.





